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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Application Number: 10/648,752
Filing Date: August 25, 2003
Appellant(s): VAN DER LINDEN ET AL.

Erin C. Ming
__For Appellant__

EXAMINER'S ANSWER

This is in response to the appeal brief filed 04/03/2007 appealing from the Office action

mailed 08/22/2006.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

| 6,853,992 B2 | IGATA | 11-2000 |
| 6,836,778 B2 | MANIKUTTY | 5-2003 |

2004/0243553 A1   BAILEY   12-2004

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim 1 – 5, 9, 11 – 15, 19, 21 – 25, 29, and 31 – 36 are rejected under 35
U.S.C. 102(e) as being anticipated by Igata (Igata hereinafter) (US Patent No.
6,853,992 B2, filed: November 30, 2000).

Regarding Claim 1 and 11, Igata discloses a computer readable medium
containing a computer program for querying a structured document stored in its native
format in a database (Fig. 1, item 23, Col. 7, lines 4 – 10, Igata), wherein the structured
document comprises a plurality of nodes that form a hierarchical node tree (Col. 4, lines
24 – 27, Igata), the computer program comprising instructions for:

a) providing at least one child pointer within at least one of the plurality of nodes
in the hierarchical node tree, wherein the at least one child pointer points to a
corresponding child node in the hierarchical node tree (Fig. 8B, Col. 10, lines 38 – 41
and 53 – 55, "POINTER to CHILDNODE" and hierarchical index, Igata);

b) storing a hint within the at least one child pointer (Fig. 12C, item 41, PART1,
PART2, PART3, Col. 14, lines 28 – 33, Igata[1]), the hint being related to the
corresponding child node (Fig. 12B, item 41, PART1, Col. 14, lines 16 – 20, Igata),
wherein the at least one child pointer further comprises a node slot number of the

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[1] Examiner interprets the link in "PART ID" to PART 1, 2 as the hint.

corresponding child node (Fig 2B, item: PART IDENTIFIER and CHILD LINK, Col. 7,

lines 47 – 51, Igata); and

c) utilizing the hint to determine whether to navigate to the corresponding child

node during query evaluation (Col. 21, lines 21 – 27, Igata).

Regarding Claim 3 and 13, Igata discloses a computer readable medium,

wherein the hint is a portion of the corresponding child node's name (Fig. 12B, item 41,

PART1, 2, 3, Col. 14, lines 16 – 20, Igata[2]).

Regarding Claim 4 and 14, Igata discloses a computer readable medium,

wherein utilizing instruction (c) further comprises:

c1) receiving a query (Col. 4, lines 30 – 31, Igata);

c2) navigating to a current node of the plurality of nodes in the hierarchical node

tree associated with the structured document (Col. 7 and 10, lines 41 – 45 and 53 – 55;

respectively, Igata[3]);

c3) checking a first hint stored in a first child pointer in the current node (Col. 9,

lines 39 – 43, wherein the part-ID is used as a search key, Igata); and

c4) navigating to the corresponding child node based on the checking in step (c3)

(Col. 9, lines 41 – 43, Igata[4]).

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[2] Wherein PART1 is a portion. PART2 and PART3 are different portions.
[3] Wherein the hierarchical index corresponds to the hierarchical node tree claimed.
[4] Igata discloses a complete-match search through the document tree. Examiner interprets this search as navigation through the node tree.

Regarding Claim 5 and 15, Igata discloses a computer readable medium, wherein checking instruction (c3) further comprises:

(c3i) comparing the first hint to the query (Col. 10, lines 45 – 48 and 53 – 55, Igata[5]).

Regarding Claim 9 and 19, Igata discloses a computer readable medium, wherein the structured document is written in Extensible Markup Language (Col. 10, lines 18 – 21, Igata).

Regarding Claim 21, Igata discloses a system for querying a structured document stored in its native format in a database (Fig. 1, item 23, Col. 7, lines 4 – 10, Igata), wherein the structured document comprises a plurality of nodes that form a hierarchical node tree (Col. 4, lines 24 – 27, Igata), the system comprising:

a computer system coupled to at least one data storage device (Fig. 1, item 23, Col. 7, lines 5 – 7, Igata);

a database management system in the computer system (Fig.1, item 22, Col. 7, lines 3 – 4, Igata); and

a storage mechanism in the database management system for providing at least one child pointer within in at least one of the plurality of nodes in the hierarchical node tree, wherein the at least one child pointer points to a corresponding child node in the hierarchical node tree (Fig. 8B, Col. 10, lines 38 – 41 and 53 – 55, "POINTER to

CHILDNODE" and hierarchical index, Igata), and storing a hint within the at least one

child pointer (Fig. 12C, item 41, PART1, PART2, PART3, Col. 14, lines 28 – 33, Igata[6]),

the hint being related to the corresponding child node (Fig. 12B, item 41, PART1, Col.

14, lines 16 – 20, Igata), wherein the at least one child pointer further comprises a node

slot number of the corresponding child node (Fig 2B, item: PART IDENTIFIER and

CHILD LINK, Col. 7, lines 47 – 51, Igata);

wherein the database management system utilizes the hint to determine whether

to navigate to the corresponding child node during query evaluation (Col. 21, lines 21 –

27, Igata).

Regarding Claim 23, Igata discloses a system, wherein the hint is a portion of the

corresponding child node's name (Fig. 12B, item 41, PART1, 2, 3, Col. 14, lines 16 –

20, Igata[7]).

Regarding Claim 24, Igata discloses a system, wherein the database

management system is configured to receive a query (Col. 4, lines 30 – 31, Igata), to

navigate to a current node of the plurality of nodes in the hierarchical node tree

associated with the structured document (Col. 7 and 10, lines 41 – 45 and 53 – 55;

respectively, Igata), to check a first hint stored in a first child pointer in the current node

(Col. 9, lines 39 – 43, wherein the part-ID is used as a search key, Igata), and to

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[5] In order to match the structure of the query tree, the system need to complete the step of text-data
matching condition, which requires a comparison between the two objects.
[6] Examiner interprets the link in "PART ID" to PART 1, 2 as the hint.
[7] Wherein PART1 is a portion. PART2 and PART3 are different portions.

navigate to the corresponding child node based on the checking (Col. 9, lines 41 – 43,

Igata[8]).

Regarding Claim 25, Igata discloses a system, wherein the database

management system is further configured to compare the first hint to the query (Col. 10,

lines 45 – 48 and 53 – 55, Igata[9]).

Regarding Claim 29, Igata discloses a system, wherein the structured document

is written in Extensible Markup Language (Col. 10, lines 18 – 21, Igata).

Regarding Claims 31, 32, and 33, Igata discloses a computer readable medium,

wherein each of the plurality of nodes in the hierarchical node tree specifies a type of

node (Col. 11 – 12, lines 24 – 28 and 7 – 9, a node type; respectively, Igata), one or

more nodes in the hierarchical node tree being of a text-type (Col. 4, lines 24 – 31, text

data of each document, Igata) and one or more other nodes in the hierarchical tree

being of non-text type (Col. 4, lines 24 – 31, meta – part, Igata).

Regarding Claims 34, 35, and 36, Igata discloses a computer readable medium,

wherein the at least one node in the hierarchical node tree further includes at least one

other child pointer (Fig. 12C, item: node PART1, Col. 14, lines 28 – 33, Igata), the at

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[8] Igata discloses a complete-match search through the document tree. Examiner interprets this search as navigation through the node tree.
[9] In order to match the structure of the query tree, the system need to complete the step of text-data matching condition, which requires a comparison between the two objects.

least one other child pointer pointing to itself or to a in-lined character array (Fig. 12C,
item: node PART1, PART2, PART3, and PART2, Col. 14, lines 28 – 33, Igata[10]).

Claims 6, 10, 16, 20, 26, and 30 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Igata (Igata hereinafter) (US Patent No. 6,853,992 B2, filed:
November 30, 2000), and further in view of Manikutty et al. (Manikutty hereinafter) (US
Patent No. 6,836,778 B2, filed: May 1, 2003).

Regarding Claims 6, and 16, Igata discloses all the limitations as disclosed
above including computer readable medium, wherein navigating instruction (c4) further
comprises: (c4i) navigating to the corresponding child node if the first hint matches the
query (Col. 10, lines 53 – 55, Igata); and (c4ii) comparing the child node's name to the
query to determine whether the child node satisfies the query (Col. 10, lines 45 – 48 and
53 – 55, match the structure of the query tree, Igata). However, Igata is silent with
respect to a namespace. On the other hand, Manikutty discloses XML documents node
trees including namespaces (Col. 14, lines 1 – 3, Manikutty). It would have been
obvious to one of ordinary skill in the art at the time the invention was made to
incorporate the teachings of Manikutty including namespaces to the system and method
of Igata. Skilled artisan would have been motivated to do so, as suggested by

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[10] Wherein the pointer of the node including PART1 corresponds to the child pointer claimed; and the
nodes including PART2, PART3, and PART2 correspond to the in-lined character array claimed.

Manikutty, in order to allow documents to contain elements from several distinct XML

schema (Col. 1, lines 54 – 58, Manikutty).

Regarding Claims 10, and 20, the combination of Igata in view of Manikutty

discloses a computer readable medium, wherein the query is an Xpath or an Xquery

expression (Col 11, lines 15 – 19, Manikutty).

Regarding Claim 26, the combination of Igata in view of Manikutty discloses a

system, wherein the database management system is further configured to navigate to

the corresponding child node if the first hint matches the query (Col. 10, lines 53 – 55,

Igata), and to compare the child node's name and namespace to the query to determine

whether the child node satisfies the query (Col. 14, lines 1 – 3, Manikutty).

Regarding Claim 30, the combination of Igata in view of Manikutty discloses a

system, wherein the query is an Xpath or an Xquery expression (Col 11, lines 15 – 19,

Manikutty).

Claims 7 – 8, 17 – 18, and 27 – 28 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Igata (Igata hereinafter) (US Patent No. 6,853,992 B2, filed:

November 30, 2000) in view of Bailey (Bailey hereinafter) (US Patent App. Pub. No.

2004/0243553 A1).

Regarding Claims 7, and 17, Igata discloses all the limitations as disclosed above including navigation instructions (Col. 7 and 10, lines 41 – 45 and 53 – 55; respectively, Igata). However, Igata does not explicitly disclose skipping child nodes. On the other hand, Bailey discloses a system and method for navigating (c4) further comprises: (c4i) skipping over the corresponding child node if the first hint does not match the query (Page 5, [0045], lines 20 – 22, Bailey). It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the teachings of Bailey to the system and method of Igata. Skilled artisan would have been motivated to do so, as suggested by Bailey, to provide a technique for access, utilizing a tree without traversing the tree down to its leaves (Page 1, [0003], lines 14 – 20, Bailey).

Regarding Claims 8, and 18, the combination of Igata in view of Bailey discloses a computer readable medium, wherein the utilizing instruction (c) further comprises:

(c5) determining whether another child pointer exists in the current node (Fig. 5, item 66, Page 5, [0046], lines 12 – 13, Bailey[11]);

(c6) checking another hint stored in the another child pointer if the another child pointer exists, and navigating to the corresponding child node based on the checking (Fig. 5, item 68, Page 5, [0046], lines 15 – 18, Bailey);

(c7) repeating steps (c5) and (c6) (Fig. 5, items 66 and 52, Page 5, [0046], lines 18 – 21, Bailey); and

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[11] Examiner interprets determining if the current node is a leaf node (as taught in Bailey's disclosure), as a method for determining whether a child pointer exists.

(c8) navigating to a next node of the plurality of nodes in the hierarchical node

tree if the another child pointer does not exist, and repeating steps (c3) through (c7),

wherein the next node becomes the current node (Page 5, [0046], lines 11 – 14, b –

tree, Bailey).

Regarding Claim 27, the combination of Igata in view of Bailey discloses a

system, wherein the database management system is further configured to skip over

the corresponding child node if the first hint does not match the query (Page 5, [0045],

lines 20 – 22, Bailey).

Regarding Claim 28, the combination of Igata in view of Bailey discloses a

system, wherein the database management system is further configured to determine

whether another child pointer exists in the current node (Fig. 5, item 66, Page 5, [0046],

lines 12 – 13, Bailey[12]), to check another hint stored in the another child pointer if the

another child pointer exists (Fig. 5, item 68, Page 5, [0046], lines 15 – 18, Bailey), to

navigate to the corresponding child node based on the checking (Fig. 5, item 68, Page

5, [0046], lines 15 – 18, Bailey), and to navigate to a next node of the plurality of nodes

in the hierarchical node tree if the another child pointer does not exist (Page 5, [0046],

lines 11 – 14, Bailey).

(10) Response to Argument

1.   Appellant requests review as to claims 1, 3-11, 13-21, and 23-36, and their rejection under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.

The 35 U.S.C. § 112, first paragraph, rejection of claims 1, 3-11, 13-21, and 23-36 has been withdrawn.

2.   Appellant requests review as to claims 1, 3-5, 9, 11, 13-15, 19, 21, 23-25, 29, and 31-36, and their rejection under 35 U.S.C. § 102(e) as being anticipated by U. S. Patent No. 6,853,992 to Igata (hereinafter "Igata").

Appellant argues that; "Igata does not disclose, teach, or suggest 'storing a hint within the at least one child pointer, the hint being related to the corresponding child node, wherein the at least one child pointer further comprises a node slot number of the corresponding child node'"; by specifically stating that the " 'the links' from 'work buffer 41' to nodes of the hierarchical index, which are illustrated as arrows in Figures 12B, 12C, and 13A, of Igata, cannot be constructed as disclosing, teaching, or suggesting the 'hint...related to the corresponding child node' recited in claim 1 because the nodes in the hierarchical index are not child nodes of 'work buffer 41'".

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[12] Examiner interprets determining if the current node is a leaf node (as taught in Bailey's disclosure), as a method for determining whether a child pointer exists.

Examiner respectfully disagrees. First, the examiner cited (Fig. 12C, item 41, PART1, PART2, PART3, Col. 14, lines 28 – 33, Igata) to teach the limitation argued by the appellant above. However, the Examiner did not specifically stated that the PART1, PART2, and PART3 from the work buffer correspond to "the hint within the at least one child pointer..." claimed.

Second, Igata does disclose storing a hint within the at least one child pointer (See - Fig. 8B, "Pointer to Parent Node", "Pointer to Sibling Node", and "Pointer to Child Node", Col. 10, lines 38 – 41, "each node of the query tree has an element name, a text-data matching condition, a pointer to a parent node, a pointer to a sibling node...", Igata; and also see- Fig. 12C, item 41, PART1, PART2, PART3, Col. 14, lines 28 – 36, Igata), the hint being related to the corresponding child node (Fig. 12B, item 41, PART1, Col. 14, lines 10 – 20, Igata). With respect to Fig. 12C, item: "PART1 0 1"; the Examiner interprets PART1 together with the arrow pointing to item: "PART2 1 2" as the child pointer claimed; wherein the PART1 corresponds to the hint claimed; and wherein, as shown in such Figure, the hint "PART1" is related to the corresponding child node ("PART2 1 2"), because "1" is included in "PART1" and is related to "PART2 1 2" ("1"in PART1 and "1" of PART2 1 2", emphasis added).

Third, Igata also discloses that: at least one child pointer further comprises a node slot number of the corresponding child node (Fig 2B, item: PART IDENTIFIER and CHILD LINK, Col. 7, lines 47 – 51, wherein the PART IDENTIFIER corresponds to the node slot number claimed, Igata).

Appellant argues; that "Igata does not disclose, teach, or suggest 'utilizing the hint to determine whether to navigate to the corresponding child node during query evaluation'".

Examiner respectfully disagrees. Igata does disclose utilizing the hint to determine whether to navigate to the corresponding child node during query evaluation (Col. 9 and 21, lines 29 – 33 and 21 – 27; respectively, "In the present embodiment, a set (special search key) which includes a special character string and a part-ID is registered for each document part, which enables searching of a structure only (search which is performed under a single search condition that a certain document part is present)...", and "...As described above, in the present invention, there are provided a hierarchical index which expresses the structure of each structured document, and a text index which is used for searching a document-ID on the basis of a search key composed of a part-ID and a character string in text data; a user's query received in the form of a tree structure is converted to a Boolean expression; and the text index is referred to in order to obtain a document-ID corresponding to the query tree. Thus, it becomes possible to search structured documents, while maintaining the high speed of conventional full-text search engines..."; wherein the step of searching including a search key corresponds to the step of navigating as claimed; wherein the step of searching under the single condition that a certain document part is present corresponds to navigating to the child node; wherein the part corresponds to the child node claimed, Igata).

Appellant argues that; "Igata does not disclose, teach, or suggest 'wherein each of the plurality of nodes in the hierarchical node tree specifies a type of node, one or more nodes in the hierarchical node tree being of a text type and one or more other nodes in the hierarchical tree being of non-text type".

Examiner respectfully disagrees. Igata does disclose the limitation where each of the plurality of nodes in the hierarchical node tree specifies a type of node (Col. 11 – 12, lines 24 – 28 and 7 – 9, a node type; respectively, Igata), one or more nodes in the hierarchical node tree being of a text-type (Col. 4 and 11, lines 24 – 31, and 25 – 28; respectively, text data of each document, Igata) and one or more other nodes in the hierarchical tree being of non-text type (Col. 4, lines 24 – 31, meta – part, Igata). Wherein the tree structure (Col. 4, lines 24 – 26, Igata) corresponds to the hierarchical node tree as claimed. To add, the tree structure of Igata includes both text nodes and non-text nodes (Col. 4, lines 26 – 29, in a tree structure in which a **"meta part"** ... ; a text index in which **a character string contained in text data** of each document **is registered**, Igata). And to further clarify, as disclosed by Igata, in Fig. 9, items S61, S62, the query tree and structure of hierarchical index are attach nodes and assemble nodes to create Boolean logic tree. Such citations teaches that the structures are attached as shown by Igata, in Fig. 18B, where as shown one or more nodes being of a text type (for example, node including "Document 0 0") and non-text type (for example, node including "? ? 2").

Appellant argues that; "Igata does not disclose, teach, or suggest 'wherein the at least one node in the hierarchical node tree further includes at least one other child pointer, the at least one other child pointer pointing to itself or to an in-lined character array'".

Examiner respectfully disagrees. The applied reference does disclose one node in the hierarchical node tree further includes at least one other child pointer (Fig. 12C, item: node PART1, Col. 14, lines 28 – 33, Igata), the at least one other child pointer pointing to itself or to a in-lined character array (Fig. 12C, item: node PART1, PART2, PART3, and PART2, Col. 14, lines 28 – 33, Igata). Wherein the pointer of the node including PART1 corresponds to the child pointer claimed; and the nodes including PART2, PART3, and PART2 correspond to the in-lined character array claimed. To further clarify, the Examiner interprets the nodes including PART2, PART3, and PART2 as the in-lined character array because such nodes are in lined linked to each other and comprise characters. Additionally, Examiner makes note that the limitation "...pointer pointing to itself or to an in-lined character array..." includes the optional limitation "or". Therefore, the limitation recites whether "pointer pointing to itself" or "to an in-lined character array".

3.   Appellant requests review as to claims 6, 10, 16, 20, 26, and 30, and their

rejection under 35 U.S.C. § 103(a) as being unpatentable over Igata, in view of U.S.

Patent No. 6,836,778 to Manikutty et al. (hereinafter "Manikutty").

Applicant argues that; "The Examiner has not established a *prima facie* case of

obviousness".

Examiner respectfully disagrees. According to MPEP § 2142, to establish *prima*

facie case of obviousness three basic criteria must be met. **First**, there must be some

suggestion or motivation, either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art, to modify the reference or to

combine the reference teachings. The prior art discloses a suggestion for combining the

references (Col. 1, lines 54 – 58, Manikutty).

As suggested by Manikutty, skilled artisan would have been motivated to make

such combination, to allow documents to contain elements from several distinct XML

schema. **Second**, there must be a reasonable expectation of success. The prior art

suggests a successful outcome of this combination, such as, allowing documents to

contain elements from several distinct XML schemas. **Third**, both of the references

(Igata and Manikutty) teach features that are directed to the same industry field of

database management systems, such as, and node trees. This close relation between

both of the references highly suggests an expectation of success. Therefore, the

combination of Igata in view of Manikutty discloses all the claim limitations disclosed in

the claimed invention (see- citations of claims 6, 10, 16, 20, 26, and 30 above).

4.   Appellant requests review as to claims 7-8, 17-18, and 27-28, and their

rejection under 35 U.S.C. § 103(a) as being unpatentable over Igata, in view of U.S.

Patent Application Publication No. 2004/0243553 to Bailey (hereinafter "Bailey").

Applicant argues that; "The Examiner has not established a *prima facie* case of

obviousness".

Examiner respectfully disagrees. According to MPEP § 2142, to establish *prima*

facie case of obviousness three basic criteria must be met. **First**, there must be some

suggestion or motivation, either in the references themselves or in the knowledge

generally available to one of ordinary skill in the art, to modify the reference or to

combine the reference teachings. The prior art discloses a suggestion for combining the

references (Page 1, [0003], lines 14 – 20, Bailey).

As suggested by Bailey, skilled artisan would have been motivated to make such

combination, to provide a technique for access, utilizing a tree without traversing the

tree down to its leaves. **Second**, there must be a reasonable expectation of success.

The prior art suggests a successful outcome of this combination, such as, accessing.

Third, both of the references (Igata and Bailey) teach features that are directed to the

same industry field of database management systems, such as, node trees. This close

relation between both of the references highly suggests an expectation of success.

Therefore, the combination of Igata in view of Bailey discloses all the claim limitations

disclosed in the claimed invention (see- citations of claims 7-8, 17-18, and 27-28

above).

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the

Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

Giovanna B. Colan
Examiner
Art Unit 2162

Conferees:

Hosain T. Alam
Supervisory Patent Examiner
Art Unit 2166

Mohammad Ali
Supervisory Patent Examiner
Art Unit 2169

An appeal conference was held on 03 July, 2007, and it was agreed to proceed

to the board of appeals.